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Immunity

A variety of active immune responses are generated in a chicken following its infection with ILT virus. Virus neutralising antibodies are the first to appear and these are seen within five to seven days post infection. These peak at three weeks and then slowly decline but can be detectable for a year or so.

Cell mediated immunity occurs but has not been very well elucidated, although cell mediated immunity in the trachea is important in resistance to infectious laryngotracheitis infection.

Maternal antibody is transferred from mother to her offspring via the egg but this does not confer protection from infection and, importantly, does not interfere with vaccination.

Blood testing

There are a variety of test methods for the detection of ILT antibodies in the blood (sera) including agar gel immunodiffusion, virus neutralisation and ELISA.

Vaccination

Vaccination will produce a satisfactory protective immunity in chickens but vaccination can induce latently infected carrier birds. For this reason ILT vaccination is only recommended in areas where this disease is endemic. The exception to this is if a vector vaccine is used.

Protection can be conferred by administering an attenuated live vaccine via the infra-orbital sinuses, the nostrils, feather follicles, eye drop or orally in the water. When using a live vaccine it is especially important with ILT to ensure adequate immunisation by ensuring an adequate vaccinal virus dose is administered.

When it comes to mass application the options are by spray or through the drinking water yet both these methods have inherent problems. Water vaccination has the issue of a proportion of the flock receiving an inadequate dose and spray vaccination can generate unacceptable adverse reactions.

Another issue with modified live ILT vaccines is their spread to neighbouring non-protected flocks and modified live ILT vaccines have been implicated in outbreaks of ILT in the field.

Inactivated ILT vaccines are not a practical proposition.

Nowadays ILT vector vaccines are assuming an increasing role in the protection of flocks and results from the field look promising.

Day old birds can be vaccinated against ILT but birds over two weeks of age respond better to vaccination with traditional modified live ILT vaccines, which typically give protection for four to five months or so. Revaccination does not appear to work very well, yet on multi-age layer sites this is probably occurring naturally and working reasonably well!